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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,804	02/25/2004	Masayoshi Abe	F-8137	3335

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EXAMINER	
KNABLE, GEOFFREY L	

ART UNIT	PAPER NUMBER
1733	

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/786,804	ABE ET AL.	
	Examiner	Art Unit	
	Geoffrey L. Knable	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 6-1-2004.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 5/1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ogawa (US 2003/0025238) or Ogawa et al. (US 2002/0089077).

Ogawa clearly discloses an extrusion method/apparatus including an extruder with screw (11) and gear pump (12) for extruding from a nozzle onto a rotating tire-building drum (18). A pressing device (15) as well as driving means for the drum and extruding machine are also clearly present. Control is also suggested (e.g. paragraph

[0025]). This reference is therefore considered to clearly disclose a method/apparatus as required by claims 1 and 6. Movement as defined in claim 5/1 is also clearly described (along directions X/Y/Z in fig. 1).

Ogawa et al. likewise clearly discloses an extrusion method/apparatus including an extruder with screw (2) and gear pump (3) for extruding from a nozzle onto a rotating tire building drum (40). A pressing device (33) as well as driving means for the drum and extruding machine are also clearly present. Control is also suggested (e.g. paragraph [0041]). This reference is therefore considered to clearly disclose a method/apparatus as required by claims 1 and 6. Movement as defined in claim 5/1 is also clearly described (paragraph [0043]).

5. Claim 4/1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa (US 2003/0025238) or Ogawa et al. (US 2002/0089077).

Ogawa and Ogawa et al. are applied as above. As to claim 4/1, Ogawa describes rotating the drum/support as well as driving the gear pump to deliver a predetermined quantity of rubber to the rotating support - further, a suitable controller is also mentioned as already noted above. This reference does not however expressly describe servomotors for the drum and gear pump or specifics of the control affected. It however is taken to be extremely well known to adopt servomotors to provide controllable rotation where desired or necessary, it being considered to have been obvious to adopt such to provide control over the drum rotation as well as gear pump for only the expected results. Ogawa et al. provides a similar disclosure and in fact expressly describes servomotors for the gear pump (paragraph [0043]). To

appropriately select the rotational speeds such that there is no sag would further have been obvious, it being considered that the desirability of having no sag would have been readily apparent - note also that no means for detecting sag are suggested by Ogawa or Ogawa et al.

6. Claims 2, 4/2, 5/2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa (US 2003/0025238) or Ogawa et al. (US 2002/0089077) as applied to claims 1 and 6 above, and further in view of at least one of [Cartwright et al. (US 3,782,428), Birdsall (US 1,827,416) and Corbett (US 2,680,880)].

Providing a capability/step of reversely rotating the gear pump would have been obvious in view of Cartwright et al. (esp. col. 4, lines 49-54), Birdsall (esp. page 1, lines 5-22) and Corbett (esp. col. 6, lines 13-14) which are considered to establish it to be well known in the art of using gear pumps to deliver fluent materials to provide such a capability to allow better control of material discharge at the completion of the desired discharge as well as to enable cleaning/purging.

7. Claims 1 and 3/1, 4/1, 5/1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laurent (US 4,963,207) or Vargo et al. (US 2004/0089400) taken in view of Böhm et al. (US 5,156,781).

Laurent discloses direct extrusion onto a rotatable tire building drum using a volumetric extruder that is controllably driven relative to the support to lay down the extruded strip at the desired location on the support. A pressing device (2) is also shown. This reference thus discloses a method/apparatus as claimed except that although it describes the desire to provide volumetric extrusion (defined as "extrusion of

a controlled volume" - note col. 4, lines 3-5), it does not describe the extruder including a screw and gear pump as claimed. Böhm et al. has been cited as evidence that the ordinary artisan understands that an extruder in the form of a screw with a gear pump is a known and particularly desirable manner of providing a precision controlled extrusion of controlled volumetric amounts of rubber - note esp. col. 10, lines 17+. To adopt such for the volumetric extruder of Laurent would therefore have been obvious and would provide a process/apparatus consistent with that claimed.

Vargo et al. likewise discloses direct extrusion onto a rotatable tire building drum using an extruder that is controllably driven relative to the support to lay down the extruded strip at the desired location on the support (esp. figs. 6-15). A pressing device (84 - note esp. paragraph [0085]) is also described. Further, the extruder is described as "an extruder only or an extruder in combination with a gear pump" (paragraph [0083]). This reference thus discloses a method/apparatus as claimed except that it does not expressly describe a screw being used in combination with a gear pump. Since however, an "extruder" is typically in the form of a screw, it is considered to have been obvious to provide a screw and gear pump following the teachings of this reference. This is especially true in view of the teachings of Böhm et al. which has been cited as evidence that the ordinary artisan understands that an extruder in the form of a screw with a gear pump is a known and particularly desirable manner of providing a precision controlled extrusion of controlled volumetric amounts of rubber - note esp. col. 10, lines 17+. To utilize a screw and gear pump combination in Vargo et al. would therefore have been obvious to the ordinary artisan.

As to claim 3, it is noted that in both primary references, the extruder nozzle is brought to a position directly adjacent the tire drum surface and further can clearly be moved away therefrom - a movement capability as required by this claim is therefore consider to be suggested by both primary references. The use of servomotors and appropriate control thereof (claim 4) would further have been obvious - note also the above discussion with respect to claim 4, incorporated here by reference. Movement capabilities consistent with claim 5 are also considered to be present in the primary references - note that they can apparently cover/reach all tire/drum surfaces.

8. Claims 2, 3/2, 4/2, 5/2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Laurent (US 4,963,207) or Vargo et al. (US 2004/0089400) taken in view of Böhm et al. (US 5,156,781) as applied above, and further in view of at least one of [Cartwright et al. (US 3,782,428), Birdsall (US 1,827,416) and Corbett (US 2,680,880)] applied substantively for the same reason as set forth in part "6" above.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Iizuka et al. (US 6,372,070) provides a similar disclosure and thus is cumulative to the applied prior art but is at present no more relevant than the applied art.

10. Note: JP 5-177737 cited in the 6-29-2004 IDS has been considered but no listing (e.g. form PTO-1449) was provided. If applicant desires this reference to be listed on any patent to issue, a form PTO-1449 or equivalent should be provided.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Geoffrey L. Knable
Primary Examiner
Art Unit 1733

G. Knable
March 9, 2006